

ABSTRACT

To provide a corrosion-resisting and wear
resisting alloy including cobalt, nickel or iron as a
base used for a sliding part or a valve seat for a
5 machine, and restraining erosion and corrosion caused
by eutectic carbide constituting the alloy in an
atmosphere with dissolved oxygen.

A material is selected from a cobalt base added
with Cr and/or W, a nickel base added with Fe and/or
10 Cr, and an iron base added with Cr and/or Ni. The
material is cast into an ingot or a slab to produce an
intermediate material. The intermediate material
comprises mesh-like eutectic carbide and a base
material surrounded by the eutectic carbide. A heat
15 plastic forming is applied to the intermediate
material at a temperature 650°C or more and the solidus
temperature or less. The eutectic carbide is formed
into multiple grains or clusters as a discontinuous
distribution. A resulting corrosion-resisting and
20 wear-resisting alloy has 0.1 to 0.5 of coefficient of
friction, and 300 to 600 Hv of Vickers hardness
without age-hardening process.

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